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FEDERAL - STATE - PRIVATE
COOPERATIVE SNOW SURVEYS
for
ALASKA

U. S. DEPARTMENT of AGRICULTURE , SOIL CONSERVATION SERVICE
and
ALASKA SOIL CONSERVATION DISTRICT

Data included in this report were obtained by the agencies named above in cooperation with the U.S. Army Corps of Engineers, Alaska Power Administration, U.S. Geological Survey, Alaska Highway Dept., Alaska Department of Fish and Game, University of Alaska, Greater Anchorage Area Borough and others.

AS OF
APR. 1, 1971

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters of key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 970, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



SNOW SURVEYS
for
ALASKA

Issued by

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UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P.O. BOX F, PALMER, ALASKA

APRIL 1971

Little additional snow fell throughout interior Alaska during the month of March. The snowpack in this large region, however, is still far above average as a result of heavy early winter snowfall. Maximum of record snow depths have been measured in several areas. The Chena river watershed near Fairbanks has an exceptionally deep snow cover. Snow surveys will be made at two week intervals in this area through April and May to monitor the changes in snow condition. A very high flow is expected during the snowmelt season.

Above normal spring flows can also be expected on the Salcha, Tanana, Yukon, Koyukuk, Kuskokwim and Susitna rivers.

Snow cover is above average in the mountains of Southeast Alaska and near normal to below normal in the Chugach Mountains near Anchorage.

Soils in the interior are drier than average and will absorb a portion of the melting snowpack.

YUKON above RAMPART

Snow cover in the upper Yukon drainage is substantially above average. Particularly heavy snowpacks were measured in the Brooks Range at the headwaters of the Chandalar River and on the 40 Mile River watershed. The upper Yukon drainage in Alaska has a snow cover 166% of average and 240% of last year. The Log Cabin B. C. snow course at the headwaters of the drainage had a slightly less than normal snowpack.

TANANA-CHENA Drainage

Although very little additional snow fell in the Tanana-Chena drainage area during the month, the snowpack is still maximum of record. Snow cover throughout the area is approximately 170% of the average for April 1. High water is expected on the Chena, Salcha and Tanana Rivers during the May-June snowmelt period.

MATANUSKA-SUSITNA-COPPER Drainage

Heavy snowfall was received on the portion of the Alaska Range draining into the Susitna River, and in parts of the Talkeetna Mountains early in March. Snow cover in this area is now above average and resultant flow from spring snowmelt will be high. Snow cover is relatively low, and below average for much of the Copper and Matanuska drainage.

KUSKOKWIM Drainage

Snow cover on the Kuskokwim drainage is much higher than it has been for the past four years. Relatively dry soils in the area will reduce the spring runoff but the river flow is expected to be above average.

KOYUKUK Drainage

Early season snowfall in the Brooks Range of mountains has resulted in a greater than normal snowpack on the Koyukuk drainage. The snowpack, however, is not as great as it was in 1968. Streamflow during the months of May and June is expected to be considerably above average.

COASTAL Drainage

Snow cover on the coastal drainage near Anchorage is very near the average for April 1. The watershed above the Eklutna reservoir has a less than normal snowpack as does most of the Chugach Mountains. The snow course near Worthington Glacier measured less than one half the snow water equivalent recorded last year.

SNETTISHAM Drainage

Snowpack in the Snettisham drainage near Juneau is well above the average for the past several years. Snow at the lower elevations is exceptionally heavy and runoff from spring snowmelt is expected to be greater than normal.

GLACIER STATIONS

Measurements were made at index snow stations on the Gulkana Glacier in mid-March by the U. S. Geological Survey. The snowpack in this locality is relatively high.

STREAMFLOW FORECASTS

The forecasts of streamflow for the Chena and Salcha Rivers published March 10 have been reduced because expected snowfall in March was not received. Forecast procedures are based on snow survey measurements at key snow courses in the watersheds and additional amounts of snow water to fall are estimated. It is assumed that average rainfall will occur during the spring months.

The Chena River at Fairbanks is forecast to flow 805,000 acre feet during the May-June period. This is a heavy flow amounting to 182% of the average for the past 11 years.

The Salcha River near Salchaket is forecast to flow 1,040,000 acre feet during the May-June snowmelt runoff period. This forecast is 177% of the average for the past 11 years.

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average †
Chena River at Fairbanks	805	172	May-June	174	442
Salcha River at Fairbanks	1040	168	May-June	275	586

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)		Years of Previous Record
NAME	Number	Elevation				Last Year	Average †	
<u>YUKON Drainage:</u>								
Arctic Village	6	2300	4/3	30	5.8	2.1	3.3	7
Black River	11	650	4/3	29A	5.5E	2.9	3.8	5
Boundary	15	3300	4/4	29A	6.4E	3.4	4.6	4
Bull Lake	13	810	4/4	32A	7.0E	2.5	4.2	4
Chandalar Lake	3	2040	4/2	30	6.0	2.5	3.7	5
Chicken Airstrip	16	1650	4/4	21	4.3	2.0	2.9	5
Circle City	12	600	4/3	36	7.1	2.7	3.7	5
Coleen River	8	1100	4/3	21A	4.0E	1.8	2.7	5
Dempsey Creek	83	950	4/4	31A	6.8E	2.5	3.0	2
Eagle Village	14	900	4/4	31	6.9	2.5	4.3	5
Five Mile			4/2	26	6.0	--	--	-
Fort Yukon	10	425	4/3	25	5.4	3.0	3.3	5
Koness Lake	7	1790	4/3	24	4.5	1.8	2.8	4
Log Cabin	69	2880	4/1	43	12.1	12.5	13.1	11
Mt. Fairplay	94	3100	4/4	24A	5.0E	2.2	--	1
Nation River	95	3050	4/4	43A	9.9E	2.9	--	1
Squaw Lake	4	2150	4/2	33A	6.6E	2.9	3.8	4
Venetie	5	610	4/2	18	3.5	1.5	2.7	5
Vundik Lake	9	950	4/3	19A	3.6E	1.8	2.5	4
<u>TANANA-CHENA:</u>								
Big Delta	29	975	3/29	25	6.0	0.2	2.4	11
Big Windy	22	3850	3/15	14A	4.2E	1.2	3.4	8
			4/1	14A	4.2E	0.7	3.4	7
Bonanza Creek	82	1150	3/26	41	9.2	1.8	4.1	3
Caribou Creek	103	1440	3/31	40	9.9	1.5	--	1
Caribou Mine	28	1115	3/15	42A	10.5E	1.4	4.4	4
			4/1	42	10.8	1.6	5.2	5
Chena Hot Springs	21	1250	3/15	41A	9.8E	1.4	3.2	3
			4/1	38	9.5	3.9	4.0	6

A - Aerial Marker reading

E - Estimated

+ 1953-1967 period

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)		Years of Previous Record
NAME	Number	Elevation				Last Year	Average †	
<u>TANANA-CHENA:</u>								
(Continued)								
Cleary Summit	18	2230	3/15	44A	12.2E	1.8	4.1	7
			4/1	45	12.1	2.3	6.1	11
Colorado Creek	27	750	3/17	43	10.3	5.7	--	1
			4/1	41	10.3	1.2	4.6	5
Donnelly Dome	80	2200	3/30	35	9.6	1.4	6.2	4
Fielding Lake	33	3000	3/30	59	17.7	7.1	10.7	10
Fort Greely	78	1420	3/30	26	6.3	0.0	3.3	4
French Creek	24	2010	3/29	43	12.2	0.6	6.7	9
Granite Creek	81	1235	3/29	28	7.0	0.3	2.3	3
Haystack Mtn.	102	1950	3/31	50	13.8	3.0	--	1
Little Chena	19	2200	3/15	39A	10.3E	1.8	4.7	8
			4/1	41	10.0	2.1	5.0	9
Little Salcha	25	1500	3/29	39	10.5	0.6	5.6	9
Meadows Road	79	1570	3/30	23	5.2	0.2	2.2	4
Mentasta Pass	31	2430	3/31	29	6.8	3.0	5.5	9
Mt. Ryan	20	2950	3/15	48A	15.0E	2.3	5.0	8
			4/1	49	14.6	2.7	6.7	9
Munson Ridge	23	3100	3/15	63A	18.9E	2.0	8.4	8
			4/1	62	19.3	2.9	12.8	9
Poker Creek	104	1025	3/31	39	9.6	1.2	--	1
Tok Junction	30	1650	3/31	18	4.1	1.4	3.4	11
Upper Chena	75	3000	3/15	72A	20.2E	1.5	4.8	3
			4/1	72A	20.2E	1.4	6.6	4
Wien Lake	74	1020	4/1	36	7.6	2.1	3.2	3
Wolf Creek	76	3850	3/15	38A	10.6E	0.5	3.1	3
			4/1	38	10.6E	0.5	3.2	2
Yak Pasture	17	540	3/29	38	9.8	1.5	3.8	11
<u>COPPER RIVER:</u>								
Haggard Creek	34	2540	3/30	27	6.1	2.8	4.7	7
Little Nelchina	40	4160	3/31	26A	5.2E	3.4	4.0	3
Mankomen Lake	32	3050	4/1	32	6.4	4.2	5.5	4
St. Anne's Lake	54	1985	3/30	22	4.3	3.3	4.8	7
Sanford River	37	2280	3/30	23A	4.6E	1.7	4.0	4
<u>KUSKOKWIM Drainage:</u>								
Farewell Lake	43	1090	4/1	26	5.8	0.0	3.2	4
Lake Minchumina	42	730	4/1	32	7.6	2.0	4.2	4
<u>MATANUSKA-SUSITNA:</u>								
Alexander Lake	49	200	3/30	43	11.1	9.6	9.8	7
Bald Mtn. Lake	47	2150	3/30	46A	11.5E	4.8	5.9	7
A - Aerial Marker Reading				E - Estimated				

† 1953-1967 period

SNOW

SNOW			THIS YEAR			PAST RECORD		
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)		Years of Previous Record
NAME	Number	Elevation				Last Year	Average †	
MATANUSKA-SUSITNA:								
(Continued)								
Chelatna Lake	44	1650	3/30	39A	9.7E	11.9	10.0	5
Clearwater Lake	36	3100	3/30	28	6.2	2.7	4.3	6
Fog Lakes #1	38	2270	3/30	30A	6.6E	1.8	3.0	7
Fog Lakes #2	96	2250	3/30	37	8.4	4.5	--	1
Independence Mine	51	3300	3/30	77	26.4	14.6	16.4	4
Lake Louise	41	2400	3/31	20	3.6	2.1	3.7	7
Monahan Flat	35	2710	3/30	44A	10.1E	4.0	5.2	7
Oshetna Lake	39	2950	3/31	19	3.7	1.9	3.2	7
Peters Hills	45	2010	3/30	61A	16.5E	17.3	13.6	2
Sheep Mtn.	53	2700	4/6	18	3.4	4.9	4.7	13
Skwentna	48	158	3/30	39	9.5	9.3	10.0	4
Talkeetna	46	350	3/30	40	10.0	2.6	6.1	4
Willow Airstrip	50	150	3/31	36	9.3	0.0	4.6	6
KOYUKUK Drainage:								
Anaktuvuk Pass	1	2100	4/2	36	9.5	3.6	3.4	2
Bettles Field	2	640	4/1	40	9.2	4.7	7.5	4
Cold Foot			4/2	42	10.6	--	--	-
Dietrich Camp			4/2	33	6.9	--	--	-
Lake Todatonten	77	985	4/1	34A	7.5E	3.2	5.1	3
Prospect Creek			4/2	35	8.1	--	--	-
COASTAL Drainage:								
Arctic Ski Bowl	65	3000	4/2	39	13.5	6.4	11.4	7
Arctic Valley #1	61	500	4/2	10	2.4	0.5	1.6	7
Arctic Valley #2	62	1000	4/2	12	2.5	0.9	2.1	7
Arctic Valley #3	63	2030	4/2	22	4.4	5.7	5.3	7
Arctic Valley #4	64	2330	4/2	24	5.4	6.1	5.7	7
Bird Creek	66	2350	3/29	50	15.6	18.3	15.0	4
Goat	59	3200	3/30	38	11.0	25.5	14.0	4
Indian Pass	68	2350	3/29	64	20.5	19.3	18.3	4
McArthur	52	120	3/30	66A	21.1E	16.5	19.8	7
Moraine	56	2100	3/30	24	5.6	8.9	9.2	14
Ptarmigan	57	3000	3/30	26.0	7.0	10.0	9.9	14
Ship Creek	67	1750	3/29	41	11.1	10.4	9.8	4
Worthington Glacier	55	2400	4/5	53	13.8	32.9	21.0	13
KENAI PENINSULA:								
Bertha Creek	98	850	4/2	35	9.2	10.8	--	1
Jean Lake	101	620	4/1	20	5.1	0.0	--	1
Kenai Summit	99	1390	4/2	42	10.2	13.0	--	1
Moose Pass	100	700	4/1	31	7.9	0.0	--	1
A - Aerial Marker reading					E - Estimated			

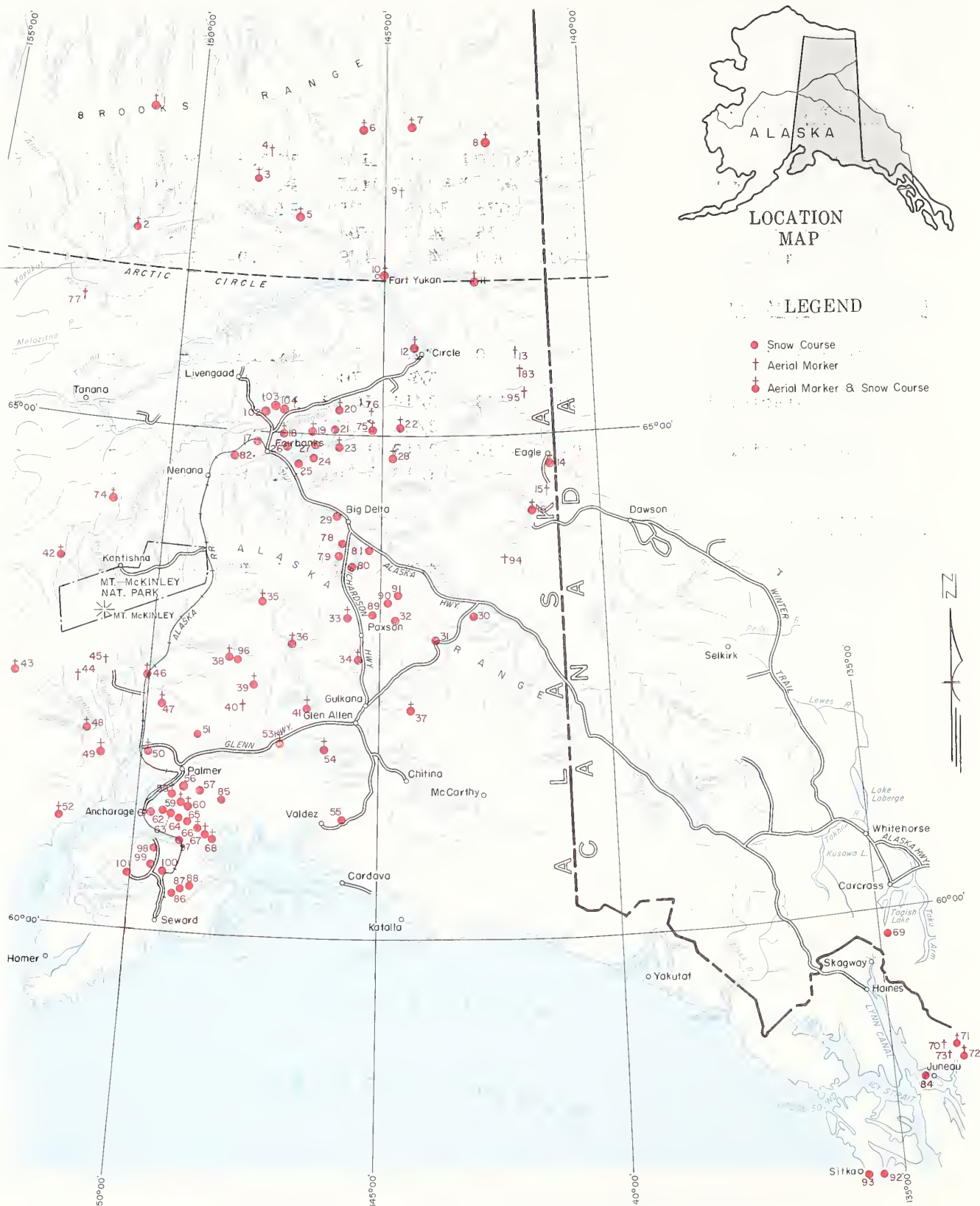
+ 1953-1967 period

SNOW

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)		Years of Previous Record
						Last Year	Average †	
<u>SOUTHEAST ALASKA:</u>								
Crater Lake	73	1750	4/5	166	70.5	56.0	60.7	6
Douglas Ski Bowl	84	1640	3/28	107	39.0	35.8	33.1	3
Long Lake	71	1075	4/5	135	52.0	37.6	40.8	6
Speel River	72	275	4/5	104	40.0	15.4	28.6	6
Upper Long Lake	70	1000	4/5	128	51.0	35.0	37.9	6
<u>GLACIER STATIONS:</u>								
Gulkana Glacier A	89	4590	3/12	74	25.6	--	--	-
			3/23	70	26.0	--	--	-
Gulkana Glacier B	90	5478	3/14	103	37.4	--	--	-
			3/23	100	38.2	--	--	-
Gulkana Glacier C	91	6363	3/13	160	63.4	--	--	-
			3/18	161	63.8	34.6	--	1
<u>NORTH SLOPE:</u>								
Elusive Lake			4/2	44	12.7	--	--	-
A - Aerial Marker reading					E - Estimated			

† 1953-1967 period



INDEX OF ALASKA SNOW COURSES

MAP NO.	COURSE NAME	COURSE NO.	ELEV.	MAP NO.	COURSE NAME	COURSE NO.	ELEV.
1	Anaktuvuk Pass	51TT1A	2100	53	Sheep Mountain	47MM1	2700
2	Bettles Field	51RR1A	640	54	St. Anne's Lake	46MM1A	1985
3	Chandalar Lake	48SS1A	2040	55	Worthington Glacier	45MM2	2400
4	Squaw Lake	48SS2a	2150	56	Moraine	48MM1	2100
5	Venetie	46SS1A	610	57	Ptarmigan	48MM2	3000
6	Arctic Village	45TT1A	2300	58	Marmot	48MM8A	2000
7	Koness Lake	44SS1A	1790	59	Goat	48MM7A	3200
8	Coleen River	42SS1A	1100	60	Grizzly	48MM4A	5000
9	Vundik Lake	43SS1a	950	61	Arctic Valley #1	49MM1	500
10	Fort Yukon	45RR1AM	425	62	Arctic Valley #2	49MM2	1000
11	Black River	42RR1A	650	63	Arctic Valley #3	49MM3	2030
12	Circle City	44QQ3A	600	64	Arctic Valley #4	49MM4	2330
13	Bull Lake	41RR1A	810	65	Arctic Ski Bowl	49MM5	3000
14	Eagle Village	41PP1A	900	66	Bird Creek	49MM6A	2350
15	Boundary	41PP3A	3300	67	Ship Creek	49MM7AM	1750
16	Chicken Airstrip	41PP2A	1650	68	Indian Pass	49MM8A	2350
17	Yak Pasture	47PP1	540	69	Log Cabin (B.C.)	34KK1	2880
18	Cleary Summit	47QQ1A	2230	70	Upper Long Lake	33JJ2a	1000
19	Little Chena	46QQ2AP	2200	71	Long Lake	33JJ1A	1075
20	Mt. Ryan	46QQ1AP	2950	72	Speel River	33JJ3A	275
21	Chena Hot Springs	45QQ1	1250	73	Crater Lake	33JJ4a	1750
22	Big Windy	44QQ2AP	3850	74	Wien Lake	51PP1A	1020
23	Munson Ridge	46PP1AP	3100	75	Upper Chena	44QQ1AP	3000
24	French Creek	46PP2MP	2010	76	Wolf Creek	44QQ4a	3850
25	Little Salcha	46PP3	1500	77	Lake Todatonten	52RR1a	985
26	Glenn Creek	47PP2	925	78	Ft. Greely	45005	1420
27	Colorado Creek	46PP4	750	79	Meadows Road	45002	1570
28	Caribou Mine	45PP2A	1115	80	Donnelly Dome	45003	2200
29	Big Delta	45PP1	975	81	Granite Creek	45004	1235
30	Tok Junction	43OO1	1650	82	Bonanza Creek	48PP1	1150
31	Mentasta Pass	43NN1	2430	83	Dempsey Creek	41RR2a	950
32	Mankomen Lake	44NN1	3050	84	Douglas Ski Bowl	34JJ1	1640
33	Fielding Lake	45OO1A	3000	85	Eagle Glacier	49MM9	4790
34	Haggard Creek	45NN1A	2540	86	Wolverine Glacier #1	48LL1	2130
35	Monahan Flat	47OO1A	2710	87	Wolverine Glacier #2	48LL2	3610
36	Clearwater Lake	46NN1A	3100	88	Wolverine Glacier #3	48LL3	4430
37	Sanford River	45NN2A	2280	89	Gulkana Glacier #1	45006	4590
38	Fog Lakes	48NN1A	2270	90	Gulkana Glacier #2	45007	5478
39	Oshetna Lake	47NN1A	2950	91	Gulkana Glacier #3	45008	6363
40	Little Nelchina	47NN2a	4160	92	Mt. Bassie	35II1	1200
41	Lake Louise	46NN2A	2400	93	Blue Lake	35II2	950
42	Lake Minchumina	52OO1A	730	94	Mt. Fairplay	42001a	3100
43	Farewell Lake	53NN1A	1090	95	Nation River	41QQ1a	3050
44	Chelatna Lake	51NN1a	1650	96	Fog Lakes #2	48NN2	2250
45	Peters Hills	50NN1a	2010	97	Mt. Alyeska	49LL1	1300
46	Talkeetna	50NN2	350	98	Bertha Creek	49LL2	850
47	Bald Mt. Lake	49NN1A	2150	99	Kenai Summit	49LL3	1390
48	Skwentna	51MM1A	158	100	Moose Pass	49LL4	700
49	Alexander Lake	50MM1A	200	101	Jean Lake	50LL1	620
50	Willow Airstrip	50MM2	150	102	Haystack Mtn.	47QQ2	1950
51	Independence Mine	49MM10	3300	103	Caribou Creek	47QQ3	1440
52	McArthur	52LL1A	120	104	Poker Creek	47QQ4	1000

Legend

45TT1 Snow Course Only
 45TT1M Snow Course & Soil Moisture
 45TT1A Snow Course & Aerial Marker
 45TT1a Aerial Marker Only
 45TT1P Snow Course & Precipitation Gage

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P.O. BOX F, PALMER, ALASKA 99645

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FIRST CLASS MAIL

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COOPERATIVE SNOW SURVEYS

Furnishes the basic data
necessary for forecasting
water supply for irrigation,
domestic and municipal water
supply, hydro-electric power
generation, navigation,
mining and industry

*"The Conservation of Water begins
with the Snow Survey"*